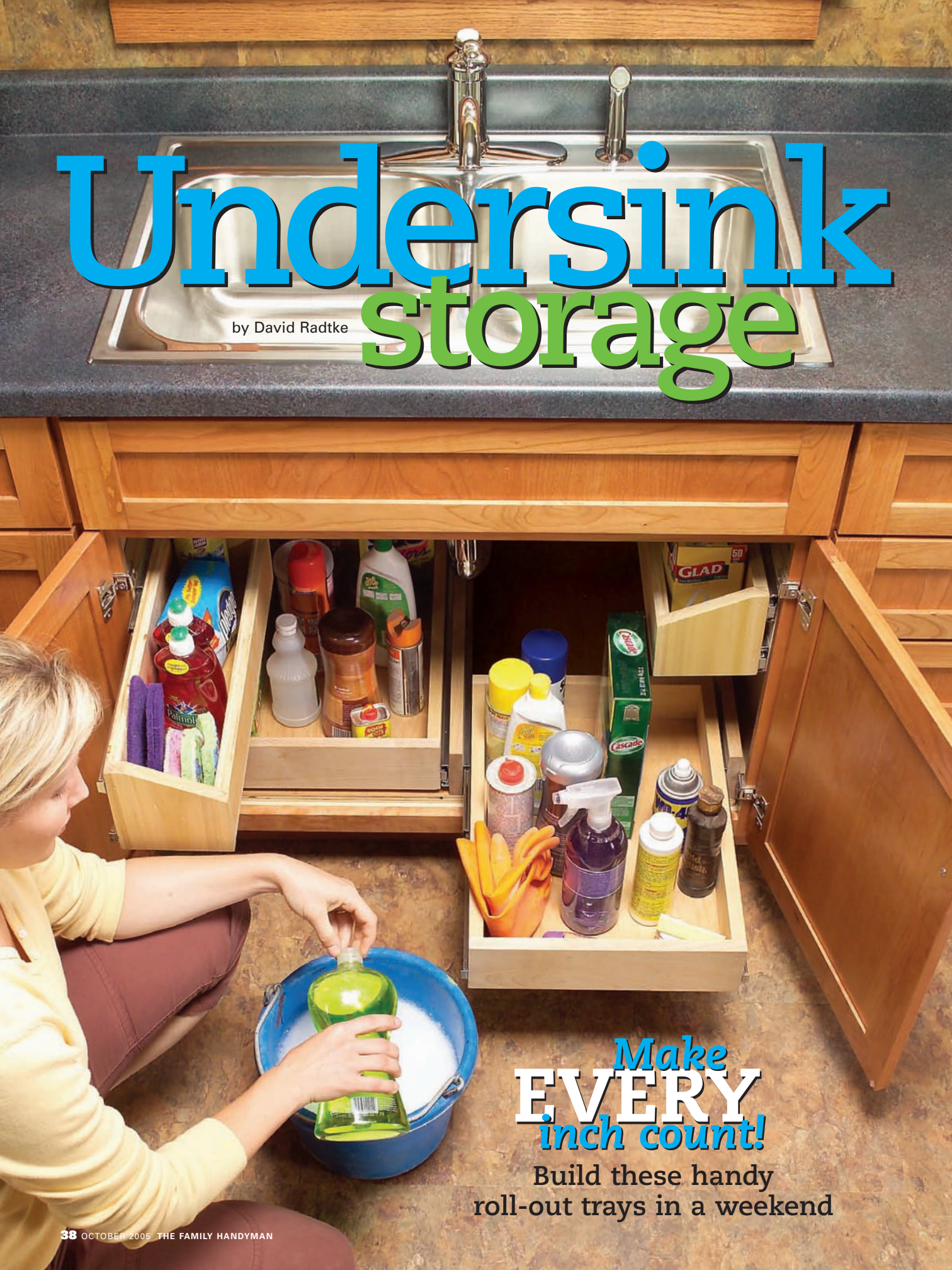
Undersink storage

by David Radtke



Make EVERY inch count!

Build these handy roll-out trays in a weekend

Have you finally had it with that dark and dingy, I'm-not-sure-what's-there storage space under the kitchen sink? Well, these two types of roll-out trays, which ride on smooth-action ball-bearing drawer glides, will get everything out in the open and let you find exactly what you need at a glance.

This project isn't difficult. In fact, there aren't even any miter joints. All the parts are glued together and then nailed or screwed. You can make all the trays in an afternoon using building products from your local home center or hardware store for as little as $75.

You can build everything with simple carpentry tools and some careful measuring. You don't need a table saw for this project, but it will help you zero in on more exact measurements, especially for the lower tray bases where accuracy is important for the ball-bearing drawer glides. The nail gun shown in the photos is also optional, but it makes assembly a lot faster and less tedious. It shoots thin 18-gauge nails.

In this article, we'll show you how to measure your sink base and custom-size and assemble the wood trays. We'll also give you some tips for installing the drawer glides without a lot of head scratching. You'll probably have to adapt the project dimensions to fit your space. For example, you may have a bulky garbage disposer that won't allow you to install both upper slide-out trays. In that case, just make one tray instead. If you have plumbing that comes up through the floor of your sink cabinet, you may need to shorten the lower trays to fit in front of the plumbing. In any case, add as many part of this project as you can to organize this black hole once and for all.

Materials List

(This list applies to the roll-out trays shown; your quantities may vary.)

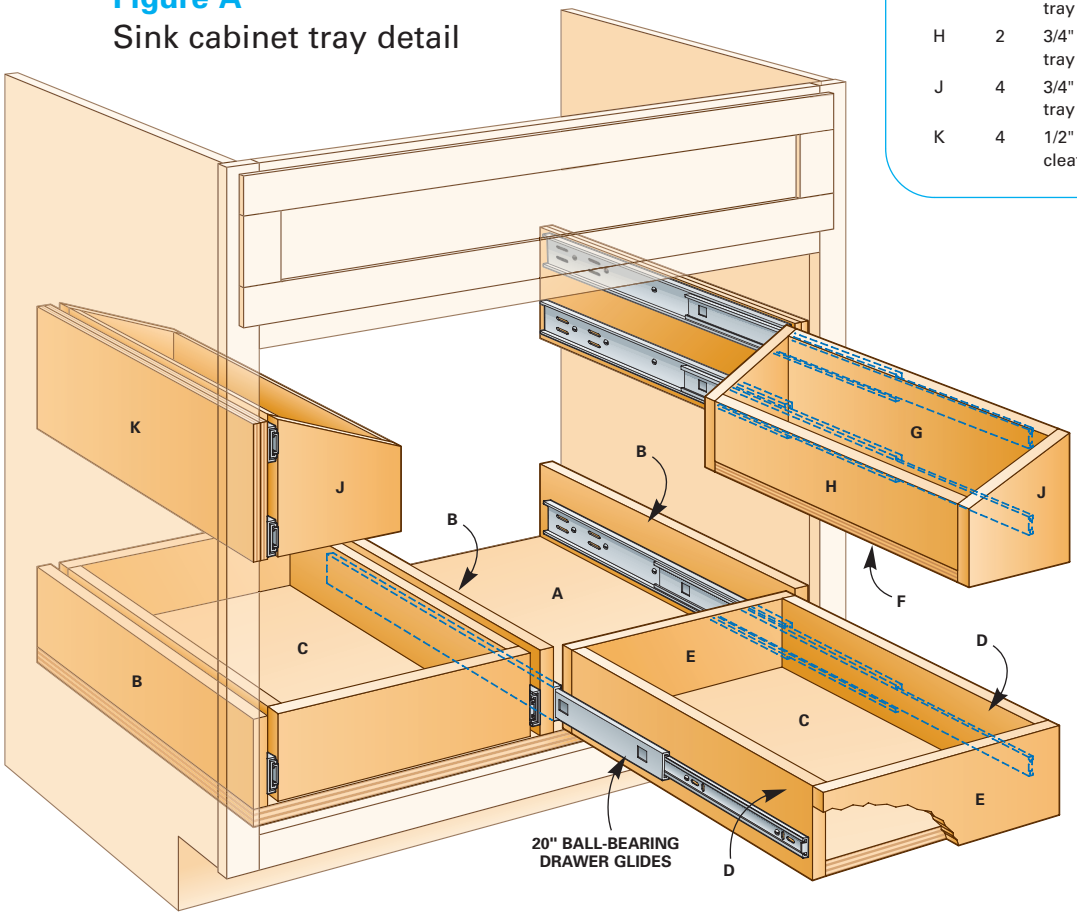
ITEM	QTY.
3/4" x 4' x 8' hardwood plywood	1
1x4 x16' maple	1
1/2" x 2' x 2' hardwood plywood	1
1x6 x 2' maple	1
20" ball-bearing drawer glides	4 prs.
Woodworker's glue	1 pt.
Construction adhesive	1 pt.
6d finish nails, small box	1
1-5/8" wood screws, small box	1

Cutting List

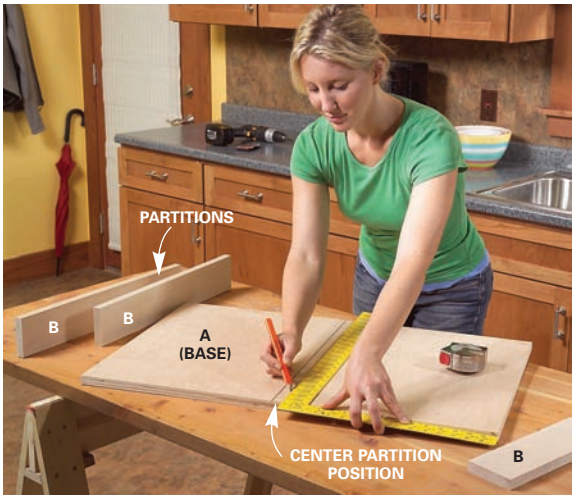
(This list applies to the roll-out trays shown; your dimensions may vary.)

KEY	PCS.	SIZE & DESCRIPTION
A	1	3/4" x 32-3/4" x 20" plywood base
B	3	3/4" x 3-1/2" x 20" base partitions
C	2	3/4" x 12-3/4" x 18-1/2" plywood tray bottom
D	4	3/4" x 3-1/2" x 18-1/2" tray sides
E	4	3/4" x 3-1/2" x 14-1/4" tray fronts and backs
F	2	1/2" x 5-1/2" x 18-1/2" upper tray bottoms
G	2	3/4" x 5" x 18-1/2" upper tray (high side)
H	2	3/4" x 3" x 18-1/2" upper tray (low side)
J	4	3/4" x 5-1/2" x 5-1/2" upper tray front and back
K	4	1/2" x 5-1/2" x 20" side cleats (double layer)

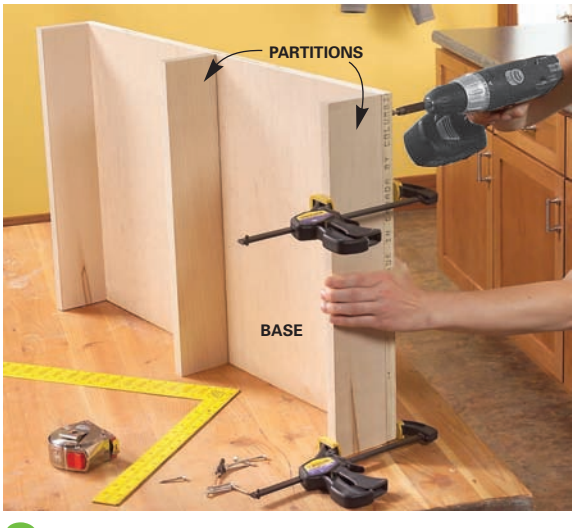
Figure A
Sink cabinet tray detail



1 Measure the width of your kitchen base cabinet inside the frame. Cut the base (A) 1/4 in. narrower than the opening.



2 Find the center of the base (A) and mark it for the center partition. Cut the 20-in.-long partitions (B) from 1x4.



3 Clamp the partitions to the base, drill pilot holes, and glue and screw them to the base with No. 8 x 2-in. screws.

4 Measure the exact distance between the partitions. Make the outer dimension of the tray 1 in. narrower than this measurement to allow for the glides.

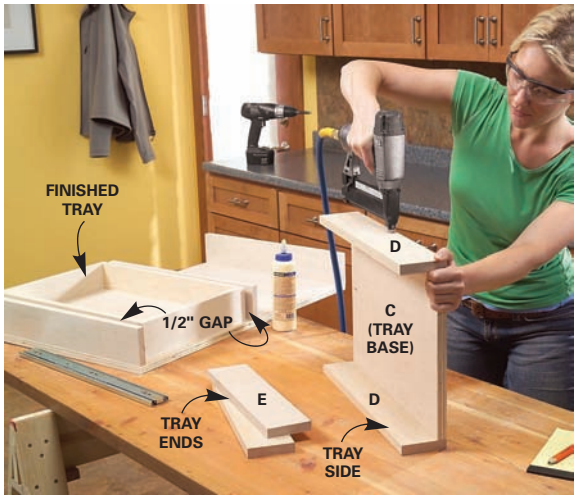
Getting the right stuff

Before you get the materials, scan this article and see if you can build all the trays or only a few of them. At a home center or lumberyard, look for hardwood plywood. You can often buy 2 x 4-ft. pieces instead of a whole sheet. The hardwood plywood has two good sides and is smoother and flatter than exterior-grade softwood plywood. It costs more too.

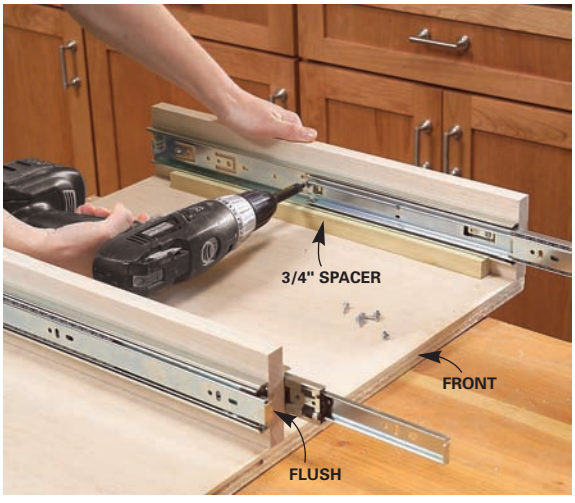
In the hardware department, look for ball-bearing side-mount drawer glides. The pairs of the brand we purchased are exactly the same—there's no specific right or left, which makes things easier if you misplace a part. We used 20-in.-long side-mount glides to fit our 20-in.-long trays. This gave us some wiggle room in the back and a bit of extra space to get the pieces into place. If you have plumbing coming up through the bottom of the cabinet, you may need to shorten the trays and buy shorter drawer glides.

Then follow the photos for the step-by-step measuring and assembly instructions. Here are a few specifics to consider:

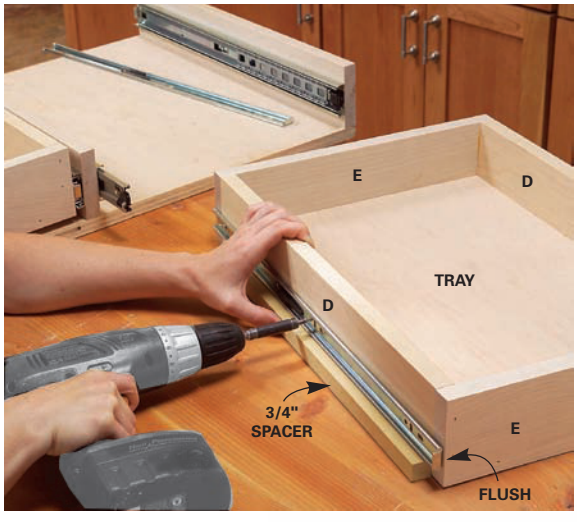
- If the opening between the open doors is narrower than the opening between the sides of the frame, use the shorter dimension to make the base.
- If you have a center stile or partition between the doors, you may need to make two separate bases for each side and a tray for each.
- Make sure the base and the tray parts are cut square and accurately so the trays slide smoothly.



5 Cut the parts for the trays and glue and nail them together. Cut the bases perfectly square to keep the trays square.



6 Set the drawer glides on 3/4-in. spacers, holding them flush with the front. Open them to expose the mounting holes and screw them to the partitions.



7 Remove the inner sections of the glides and screw them to the sides of the trays. Reassemble the glides and make sure they glide smoothly.

8 Insert the base assembly into the floor of the cabinet. Align the front of the base flush with the backside of the face frame. Screw the base to the floor of the cabinet.

A word about drawer glides

The ball-bearing glides are designed to mount on the sides of the trays (**Photos 6 and 7**). The glides require exactly 1/2 in. of space between the partition and drawer on each side to work properly, so make the trays exactly 1 in. narrower than the distance between the partitions. If the trays are too wide, they'll bind and be tough to open, in which case, you'll have to take them apart and recut the tray bottom. If the trays are too narrow, the glides will not engage. Fixing this is a bit easier. You can just shim behind the glides with thin washers.

Watch for protruding hinges and other obstructions when you mount the lower or upper trays. You may need to adjust the height or placement of the trays to accommodate them.

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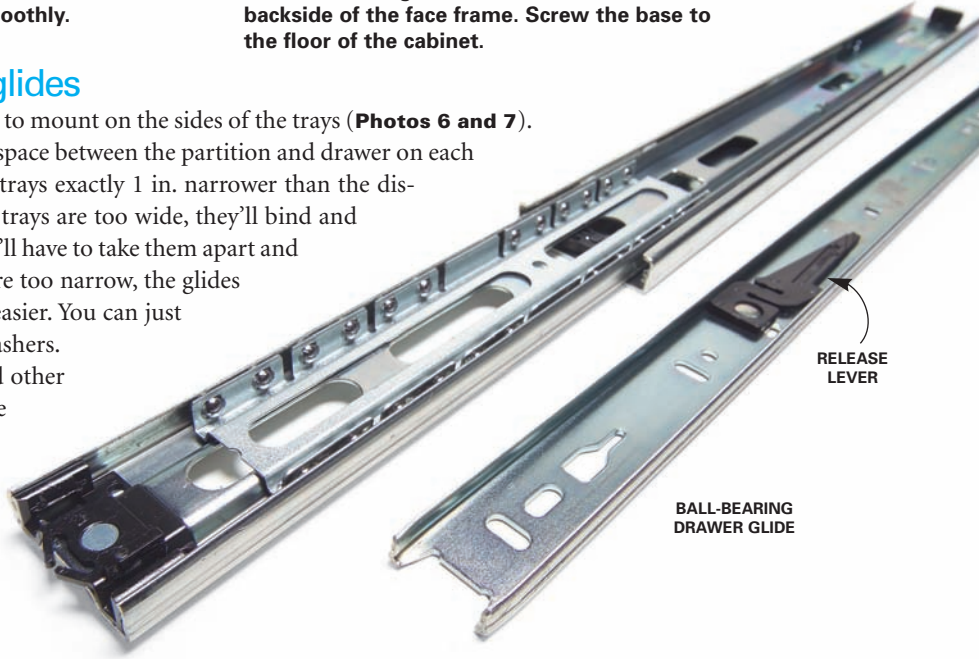
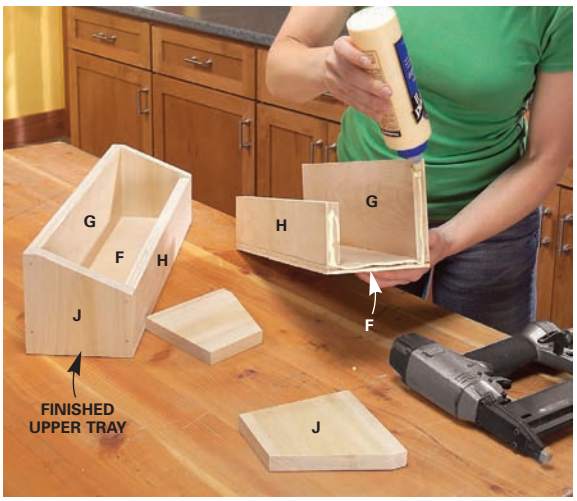
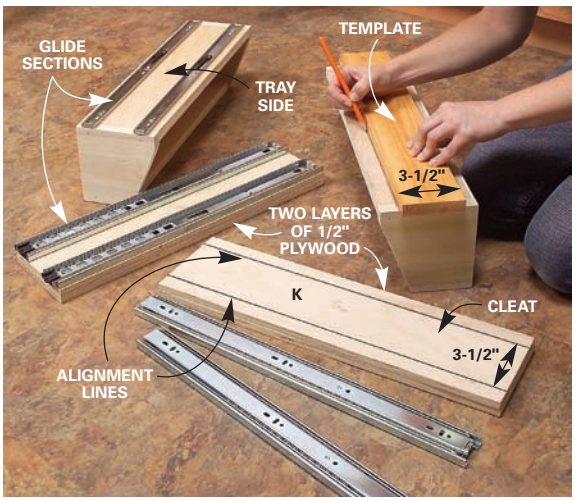




9 Cut the parts for the upper trays, drill pilot holes, and glue and screw them together. Cut two thicknesses of plywood and glue them together to make the 1-in.-thick side cleats (K).



10 Cut a 3-1/2-in.-wide template, center it on the cleats and the tall side of each tray and trace the edges. Center the mounting holes of the glides on these lines and screw them to the cleats (outer sections) tray sides (inner sections).

11 Sand the side of the cabinet to increase the adhesion, then glue and screw the cleats to the sides of the cabinet. Cut a plywood spacer to hold the cleat even.

12 Slide the upper trays into position and test the fit. Seal the trays with two coats of polyurethane to make cleaning easier.

Editor's Note

After I built this same project at home, friends dropped by, saw it and were inspired to organize their sink cabinet. Because they have small children, I advised them to add childproof latches to secure the strong household cleaners they'll be storing.

DAVID

Seal the trays with polyurethane

You never know what kind of spill or leak will happen under the sink, so it's best to seal the wood. Once you've finished the project, remove the trays and glides, sand them with 150-grit sandpaper and brush on two coats of polyurethane. Let the trays dry thoroughly, then look through all that stuff you had stored under the sink. Toss out old stuff and combine duplicate products—and enjoy your reclaimed and now easily accessible space.

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